B. Amendments to the Claims

1. (currently amended) A solar ~~energy-collecting assembly~~ heated, multi-effect distillation system for distilling fluid comprising:

an elongated floor means incorporating a light-absorbing surface for absorbing sunlight, said floor means being overlain by a pool of feedstock fluid;

an elongated light-transmitting roof means for allowing the transmission of sunlight, said roof means being situated above said floor means and fixedly attached at its perimeter to said floor means to form an enclosure;

an elongated, thermally conductive, light-transmitting ~~air~~ partition means, underlying said roof means and overlying said floor means, for partially dividing said enclosure into two tubular air ducts comprising an upper condenser air duct and a lower evaporator air duct, said ~~air~~ partition means being fixedly attached along its perimeter to said roof means and having a first opening near one of its extremities and a second opening near its opposite extremity to allow the free flow of air between said upper and lower air ducts;

a circulating means for circulating air within said enclosure so as to cause said air to enter said lower evaporator air duct through said first opening, to flow along the length of said lower evaporator air duct, to then pass through said second opening into said upper condenser air duct, to then flow along the length of said upper condenser air duct in a direction reverse to its flow direction in said lower evaporator air duct, and then to reenter said lower evaporator air duct by passing through said first opening, said circulating means propelling air with sufficient velocity so as to induce thermal gradients along the lengths of said upper and lower air ducts, said gradients having a temperature differential sufficient to induce the progressive evaporation of feedstock fluid along the length of said lower evaporator air duct and progressive condensation of the vapor of said fluid along the length of said upper condenser air duct to produce a fluid condensate, said thermal gradients having their hotter ends near said second opening and their cooler ends near said first opening; and

a supply means for conveying feedstock fluid from an external source to said pool of feedstock fluid, a feedstock removal means for drawing said feedstock fluid from said pool of feedstock fluid and conveying it out of said enclosure, and a condensate removal means for conveying fluid condensate out of said upper condenser air duct.

2. (currently amended) The solar ~~energy-collecting assembly~~ heated, multi-effect distillation system of claim 1 wherein said feedstock fluid is water.

3. (currently amended) The solar ~~energy-collecting assembly~~ heated, multi-effect distillation system of claim 1 further providing control means for regulating the speed of said circulating means.

4. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 3 wherein said control means includes ~~either:~~ one or more of the following: a) two or more temperature sensors for sensing the temperature differential along the length of said air ducts, b) a light-sensing means for sensing the ambient level of incident solar radiation, or c) a clock means for determining the time of day, or d) a thermostat for sensing the air temperature within said air ducts or or water temperature in said pool.

5. (canceled)

6. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 further providing spraying means for spraying feedstock fluid into the air of said lower evaporator air duct.

7. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 wherein said floor means are overlain by a solar-energy-absorbing wick means for assisting the ~~humidification of air~~ evaporation of feedstock fluid in said lower evaporator air duct.

8. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 wherein said light-transmitting roof means comprises two or more elongated light-transmitting layers attached to one another at their periphery and wherein each of said layers is spaced apart from the other by an insulating air layer.

9. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 wherein said light-transmitting roof means comprises two or more elongated light-transmitting film means attached to one another at their periphery and wherein each of said film means is spaced apart from the other by one or more insulating air layers, each of said insulating air layers being provided with an inflation means ~~to admit~~ for admitting outside air.

10. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 wherein said light-transmitting ~~air~~ partition means comprises an elongated light-transmitting film means.

11. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 further providing air vent means ~~to allow~~ for allowing outside air to access said enclosure at a location near the air intake of said circulating means so as to permit said enclosure to inflate when said circulating means is operating.

12. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 11 further providing forcing means ~~to force~~ for forcing air through said air vent means into said enclosure.

13. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 wherein the upper and lower surfaces of said ~~air~~ partition means and the lower surface of said roof means are hydrophilic and incorporate an infrared absorbing or reflecting coating.

14. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 wherein said floor means is underlain by insulating means for retarding the loss of heat.

15. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 wherein the cross sectional area of said upper condenser air duct is smaller near said second opening than it is near said first opening.

16. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 further providing a heat exchange pipe means which lies upon and extends along the length of said floor means for transferring heat to said ~~layer~~ pool of feedstock fluid, said heat exchange pipe means receiving hot heat exchange fluid from an external heat source via an inlet pipe entering said enclosure at the end of said enclosure near said second opening in said ~~air~~ partition means and discharging cool fluid via an outlet pipe leaving said enclosure at the end of said enclosure near said first opening in said ~~air~~ partition means, and temperature sensing and control means to control the flow of said heat exchange fluid so as to admit said fluid to said heat exchange pipe means when the temperature of said heat exchange fluid is higher than the temperature at the hotter end of said pool of feedstock fluid.

17. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 further providing a first heat exchanger means for condensing a working fluid and is positioned in one of said air ducts near said first opening in said ~~air~~ partition means, and wherein a second heat exchanger means is provided for evaporating said working fluid and is positioned in one of said air ducts near said second opening in said ~~air~~ partition means, the pressure differential induced in said working fluid between said heat exchangers being used to drive a turbine or heat engine means for performing useful work.

18. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 further providing means for positioning ~~two or more~~ duplications of said ~~assemblies~~ system adjacent to one another so that they share in common the same floor means.

19. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 1 wherein the light absorbing floor means of said ~~assembly~~ system is inclined and wherein pumping means are provided for pumping feedstock fluid from a reservoir at the lower elevation end to the higher elevation end of said floor means and for applying said fluid to the

surface of said floor or to the surface of a fluid-absorbing, solar energy absorbing wick layer covering said floor means.

20. (currently amended) ~~A~~ An inflatable solar ~~energy collecting assembly~~ heated, multi-effect distillation system for distilling fluid comprising:

an elongated, floor means incorporating a light-absorbing surface for absorbing sunlight, said floor means being overlain by a pool of feedstock fluid;

an elongated light-transmitting, inflatable plastic film roof means for allowing the transmission of sunlight, said roof means being situated above said floor means and fixedly attached at its perimeter to said floor means to form an enclosure;

an elongated light-transmitting, inflatable plastic film ~~air~~ partition means, underlying said roof means and overlying said floor means, for partially dividing said enclosure into two tubular air ducts comprising an upper condenser air duct and a lower evaporator air duct, said ~~air~~ partition means being fixedly attached along its perimeter to said roof means and having a first opening near one of its extremities and a second opening near its opposite extremity to allow the free flow of air between said upper and lower air ducts;

a circulating means for circulating air within said enclosure so as to cause said air to enter said lower evaporator air duct through said first opening, to flow along the length of said lower evaporator air duct, to then pass through said second opening into said upper condenser air duct, to then flow along the length of said upper condenser air duct in a direction reverse to its flow direction in said lower evaporator air duct, and then to reenter said lower evaporator air duct by passing through said first opening, said circulating means propelling air with sufficient velocity so as to induce thermal gradients along the lengths of said upper and lower air ducts, said gradients having a temperature differential sufficient to induce the progressive evaporation of feedstock fluid along the length of said lower evaporator air duct and progressive condensation of the vapor of said fluid along the length of said upper condenser air duct to produce a fluid condensate, said thermal gradients having their hotter ends near said second opening and their cooler ends near said first opening;

an air vent means ~~to allow~~ for allowing outside air to access said enclosure at a location near the air intake of said circulating means so as to permit said enclosure to inflate when said circulating means is operating; and

a supply means for conveying feedstock fluid from an external source to said pool of feedstock fluid, a removal means for drawing said feedstock fluid from said pool of feedstock fluid and conveying it out of said enclosure, and separate removal means for conveying fluid condensate out of said upper condenser air duct.

21. (currently amended) The inflatable solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 20 further providing control means for regulating the speed of said circulating means.

22. (currently amended) The inflatable solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 20 wherein said floor means is overlain by a solar-energy-absorbing wick means for assisting the ~~humidification of air~~ evaporation of feedstock fluid in said lower evaporator air duct.

23. (currently amended) The inflatable solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 20 wherein said light-transmitting roof means comprises two or more elongated light-transmitting film means attached to one another at their periphery and wherein each of said film means is spaced apart from the other by one or more insulating air layers, each of said insulating air layers being provided with an inflation means ~~to admit~~ for admitting outside air.

24. (currently amended) The inflatable solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 20 wherein said floor means is underlain by insulating means for retarding the loss of heat.

25. (currently amended) The inflatable solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 20 wherein the light absorbing floor means of said ~~assembly~~ system is inclined and wherein pumping means are provided for pumping feedstock fluid from a reservoir at ~~tthe~~ the lower elevation end to the higher elevation end of said floor means and for applying said fluid to the surface of said floor or to the surface of a fluid-absorbing, solar energy absorbing wick layer covering said floor means.

26. (currently amended) A solar ~~energy collecting assembly~~ heated, multi-effect distillation system for distilling fluid comprising:

a floor means incorporating a light-absorbing surface for absorbing sunlight, said floor means being overlain by a pool of feedstock fluid;

a light-transmitting roof means for allowing the transmission of sunlight, said roof means being situated above said floor means and fixedly attached at its perimeter to said floor means to form an enclosure;

a light-transmitting thermally conductive, ~~air~~ partition means, underlying said roof means and overlying said floor means, for dividing said enclosure into an upper condenser air duct and a lower evaporator air duct, said ~~air~~ partition means being fixedly attached to said roof means along its perimeter and having first and second openings to allow the free flow of air between said upper and lower air ducts, said first opening being situated along the periphery of said ~~air~~ partition means and said second opening being situated near the geometrical center of said ~~air~~ partition means;

a circulating means for circulating air within said enclosure so as to cause said air to enter said lower evaporator air duct through said first opening, to flow through said lower evaporator air duct, to then pass through said second opening into said upper condenser air duct, to then flow through said upper condenser air duct in a direction generally reverse to its flow direction in said lower evaporator air duct, and then to reenter said lower evaporator air duct by passing again through said first opening, said circulating means propelling air with sufficient velocity so as to induce thermal gradients along the direction of air flow through said upper and lower air ducts, said gradients having temperature differentials sufficient to induce the progressive evaporation of feedstock fluid along the direction of air flow through said lower evaporator air duct and the progressive condensation of the vapor of said fluid along the direction of air flow through said upper condenser air duct to produce a fluid condensate, said gradients having their hotter ends near said second opening and their cooler ends near said first opening; and

a supply means for conveying feedstock fluid from an external source to said pool of feedstock fluid, a feedstock removal means for drawing said feedstock fluid from said pool of feedstock fluid and conveying it out of said enclosure, and a condensate removal means for conveying fluid condensate out of said upper condenser air duct.

27. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** wherein said feedstock fluid is water.

28. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** further providing control means for regulating the speed of said circulating means.

29. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **28** wherein said control means includes ~~either:~~ one or more of the following: a) two or more temperature sensors for sensing the temperature differential along the length of said air ducts, b) a light-sensing means for sensing the ambient level of incident solar radiation, ~~or~~ c) a clock means for determining the time of day, or d) a thermostat for sensing the air temperature within said air ducts or or water temperature in said pool.

30. (canceled)

31. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** further providing spraying means for spraying feedstock fluid into the air of said lower evaporator air duct.

32. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** wherein said floor means are overlain by a solar-energy-absorbing wick means

for assisting the ~~humidification of air~~ evaporation of feedstock fluid in said lower evaporator air duct.

33. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** wherein said light-transmitting roof means comprises two or more light-transmitting layers attached to one another at their periphery and wherein each of said layers is spaced apart from the other by an insulating air layer.

34 (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** wherein said light-transmitting roof means comprises two or more light-transmitting film means attached to one another at their periphery and wherein each of said film means is spaced apart from the other by one or more insulating air layers, each of said air layers being provided with an inflation means ~~to admit~~ for admitting outside air.

35. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** wherein said light-transmitting ~~air~~ partition means comprises a light-transmitting film means.

36. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** further providing support mean to support said light transmitting ~~air~~ partition means and said roof means ~~to provide~~ for providing unrestricted air flow through said upper and lower air ducts.

37. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** further providing air vent means to allow outside air to access said enclosure at a location near the air intake of said circulating means so as to permit said enclosure to inflate when said circulating means is operating.

38. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** wherein the upper and lower surfaces of said ~~air~~ partition means and the lower surface of said roof means are hydrophilic and incorporate an infrared absorbing or reflecting coating.

39. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** wherein said floor means is underlain by insulating means for retarding the loss of heat.

40. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** wherein the cross sectional area of said upper condenser air duct is smaller near said second opening than it is near said first opening.

41. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** wherein a heat exchange pipe means is provided which lies upon and extends

along said floor means for transferring heat to said ~~layer~~ pool of feedstock fluid, said heat exchange pipe means receiving hot heat exchange fluid from an external heat source via an inlet pipe entering said enclosure at a location near said second opening in said ~~air~~ partition means and discharging cool fluid via an outlet pipe leaving said enclosure at a location near said first opening in said ~~air~~ partition means, and wherein temperature sensing and control means are provided to control the flow of said heat exchange fluid so as to admit said fluid to said heat exchange pipe means when the temperature of said heat exchange fluid is higher than the temperature at the hotter end of said pool of feedstock fluid.

42. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** further providing a first heat exchanger means for condensing a working fluid, said first heat exchanger means being positioned in one of said air ducts near said first opening in said ~~air~~ partition means, and a second heat exchanger means for evaporating said working fluid and which is positioned inside said enclosure near said second opening in said ~~air~~ partition means, the pressure differential induced in said working fluid between said heat exchangers being used to drive a turbine or heat engine means for performing useful work.

43. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **42** **26** further providing a first heat exchanger means for condensing a working fluid, said first heat exchanger means being positioned in one of said air ducts near said first opening in said ~~air~~ partition means, and a second heat exchanger means for evaporating said working fluid and which is positioned outside of said enclosure and is cooled by a flow of air or water, the pressure differential induced in said working fluid between said heat exchangers being used to drive a turbine or heat engine means for performing useful work.

44. (currently amended) A solar ~~energy collecting assembly~~ heated, multi-effect distillation system for distilling fluid comprising:

a floor means incorporating a light-absorbing surface for absorbing sunlight, said floor means being overlain by a pool of feedstock fluid;

a light-transmitting roof means for allowing the transmission of sunlight, said roof means being situated above said floor means and being fixedly attached at its perimeter to said floor means to form an enclosure;

a light-transmitting thermally conductive, ~~air~~ partition means, underlying said roof means and overlying said floor means, for dividing said enclosure into an upper condenser air duct and a lower evaporator air duct, said ~~air~~ partition means being fixedly attached to said roof means along its perimeter and having a communicating opening to allow the free flow of air between said upper and lower air ducts;

an inlet air passage means connecting with said lower evaporator air duct for admitting air to said enclosure and an outlet air passage means connecting with said upper condenser air duct for

exhausting air from said enclosure, said air passage means both being located at an extremity of said enclosure that is distant from the location of said communicating opening;

a circulating means for circulating air within said enclosure so as to cause outside air to enter said lower evaporator air duct through said inlet air passage means, to flow along the length of said lower evaporator air duct, to then pass through said communicating opening into said upper condenser air duct, to then flow through said upper condenser air duct in a direction reverse to its flow direction in said lower evaporator air duct, and finally to exhaust from said upper condenser air duct by passing through said outlet air passage means, said circulating means propelling air with sufficient velocity so as to induce thermal gradients along the direction of air flow through said upper and lower air ducts, said gradients having temperature differentials sufficient to induce the progressive evaporation of feedstock fluid along the along the direction of air flow through said lower evaporator air duct and the progressive condensation of the vapor of said fluid along the direction of air flow through said upper condenser air duct to produce a fluid condensate, said gradients having their hotter ends near said communicating opening and their cooler ends near said air passage means; and

a supply means for conveying feedstock fluid from an external source to said pool of feedstock fluid, a feedstock removal means for drawing said feedstock fluid from said pool of feedstock fluid and conveying it out of said enclosure, and a condensate removal means for conveying fluid condensate out of said upper condenser air duct.

45. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** wherein said feedstock fluid is water.

46. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** further providing control means for regulating the speed of said circulating means.

47. (currently ammended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **46** wherein said control means includes ~~either:~~ one or more of the following: a) two or more temperature sensors for sensing the temperature differential along the length of said air ducts, b) a light-sensing means for sensing the ambient level of incident solar radiation, ~~or~~ c) a clock means for determining the time of day, or d) a thermostat for sensing the air temperature within said air ducts or or water temperature in said pool.

48. (canceled)

49. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** further providing spraying means for spraying feedstock fluid into the air of said lower evaporator air duct.

50. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** wherein said floor means are overlain by a solar-energy-absorbing wick means for assisting the ~~humidification of air~~ evaporation of feedstock fluid in said lower evaporator air duct.

51. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** wherein said light-transmitting roof means comprises two or more light-transmitting layers attached to one another at their periphery and wherein each of said layers is spaced apart from the other by an insulating air layer.

52. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** wherein said light-transmitting roof means comprises two or more light-transmitting film means attached to one another at their periphery and wherein each of said film means is spaced apart from the other by one or more insulating air layers, each of said air layers being provided with an inflation means ~~to admit~~ for admitting outside air.

53. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** wherein said light-transmitting ~~air~~ partition means comprises a light-transmitting film means.

54. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** further providing support means to support said light transmitting ~~air~~ partition means and said roof means ~~to allow~~ for allowing unrestricted air flow through said upper and lower air ducts.

55. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** wherein the upper and lower surfaces of said ~~air~~ partition means and the lower surface of said roof means are hydrophilic and incorporate an infrared absorbing or reflecting coating.

56. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** wherein said floor means is underlain by insulating means for retarding the loss of heat.

57. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** wherein the cross sectional area of said upper condenser air duct is smaller near said communicating opening than it is near said outlet air passage means.

58. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** further providing a heat exchange pipe means which lies upon and extends along said floor means for transferring heat to said ~~layer~~ pool of feedstock fluid, said heat exchange pipe means receiving hot heat exchange fluid from an external heat source via an inlet pipe entering

said enclosure at a location near said communicating opening in said ~~air~~ partition means and discharging cool fluid via an outlet pipe leaving said enclosure at a location near said air passage means, and further providing temperature sensing and control means to control the flow of said heat exchange fluid so as to admit said fluid to said heat exchange pipe means when the temperature of said heat exchange fluid is higher than the temperature at the hotter end of said pool of feedstock fluid.

59. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** further providing a first heat exchanger means for condensing a working fluid, said first heat exchanger means being positioned in said lower air duct near said inlet air passage means, and wherein a second heat exchanger means is provided for evaporating said working fluid, said second heat exchanger means being positioned in one of said air ducts near said communicating opening, the pressure differential induced in said working fluid between said heat exchangers being used to drive a turbine or heat engine means for performing useful work.

60. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **1** wherein said light-absorbing floor means inclines downward from the hotter end to the cooler end of said ~~assembly~~ system, and wherein said supply means applies feedstock fluid to the surface of said floor means at the hotter end of said evaporator air duct and wherein said removal means removes feedstock fluid from the surface of said floor means at the cooler end of said evaporator air duct.

61. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **20** wherein said light-absorbing floor means inclines downward from the hotter end to the cooler end of said ~~assembly~~ system, and wherein said supply means applies feedstock fluid to the surface of said floor means at the hotter end of said evaporator air duct and wherein said removal means removes feedstock fluid from the surface of said floor means at the cooler end of said evaporator air duct.

62. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** wherein the center of said light-absorbing floor means is inclined with respect to the periphery of said floor means and wherein said supply means applies feedstock fluid to the surface of said floor means at the hotter end of said evaporator air duct and wherein said removal means removes feedstock fluid from the surface of said floor means at the cooler end of said evaporator air duct.

63. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **62** further providing pumping means for pumping feedstock fluid from the lower elevation end to the higher elevation end of said light-absorbing floor means and for applying said fluid to the surface of said floor means.

64. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **44** wherein said light-absorbing floor means inclines downward from the hotter end to the cooler end of said ~~assembly~~ system, and wherein said supply means applies feedstock fluid to the surface of said floor means at the hotter end of said evaporator air duct and wherein said removal means removes feedstock fluid from the surface of said floor means at the cooler end of said evaporator air duct.

65. (currently amended) A method for distilling feedstock fluid produced from an oil, gas, or geothermal well ~~by providing~~ comprising:

~~an elongated floor means incorporating a light-absorbing surface for absorbing sunlight, said floor means being overlain by a pool of said feedstock fluid;~~

~~an elongated light-transmitting roof means for allowing the transmission of sunlight, said roof means being situated above said floor means and fixedly attached at its perimeter to said floor means to form an enclosure;~~

~~an elongated light-transmitting air partition means, underlying said roof means and overlying said floor means, for partially dividing said enclosure into two tubular air ducts comprising an upper condenser air duct and a lower evaporator air duct, said air partition means being fixedly attached along its perimeter to said roof means and having a first opening near one of its extremities and a second opening near its opposite extremity to allow the free flow of air between said upper and lower air ducts;~~

~~a circulating means for circulating air within said enclosure so as to cause said air to enter said lower evaporator air duct through said first opening, to flow along the length of said lower evaporator air duct, to then pass through said second opening into said upper condenser air duct, to then flow along the length of said upper condenser air duct in a direction reverse to its flow direction in said lower evaporator air duct, and then to reenter said lower evaporator air duct by passing through said first opening, said circulating means propelling air with sufficient velocity so as to induce thermal gradients along the lengths of said upper and lower air ducts, said gradients having a temperature differential sufficient to induce the progressive evaporation of feedstock fluid along the length of said lower evaporator air duct and progressive condensation of the vapor of said fluid along the length of said upper condenser air duct to produce a fluid condensate, said thermal gradients having their hotter ends near said second opening and their cooler ends near said first opening; and~~

~~a supply means for conveying feedstock fluid from said well to said pool of feedstock fluid, a feedstock removal means for drawing fluid from said pool of feedstock fluid and conveying it out of said enclosure, and a condensate removal means for conveying fluid condensate out of said upper condenser air duct.~~

directing feedstock fluid into one end of an elongated covered basin whose overlying interior air space is divided by a light-transmitting, film partition means to form an upper and a lower air duct;

heating fluid contained in said basin by solar radiation passed through the basin roof and underlying film partition means;

directing air to circulate in a closed loop between said upper and lower air ducts so that said air passes from said upper to said lower air duct through a first opening in said film partition means at one end of said lower air duct, flows lengthwise to the far end of said lower air duct, then passes through a second opening in said film partition means to enter said upper air duct, then flows lengthwise to the far end of said upper air duct in a direction opposite to its flow in said lower air duct, and then passes once again through said first opening in said film partition means to reenter said lower air duct, said air flowing with sufficient velocity so as to induce a thermal gradient along the lengths of said air ducts and basin and being of sufficient magnitude to induce the progressive evaporation of feedstock fluid along the length of said lower air duct and progressive condensation of the vapor of said fluid along the length of said upper air duct to produce a fluid condensate, said thermal gradient having its cooler end near said first opening and its hotter end near said second opening;

withdrawing condensate from said upper air duct; and

withdrawing feedstock fluid from said basin.

66. (currently amended) ~~The solar energy collecting assembly of~~ A method according to claim **65** wherein said feedstock fluid is water.

67. (currently amended) ~~The solar energy collecting assembly of~~ A method according to claim **65** further providing control means for regulating the speed of said ~~circulating means~~ air flow.

68. (currently amended) ~~The solar energy collecting assembly of~~ A method according to claim **67** wherein said control means ~~includes two or more temperature sensors~~ is effected by one or more of the following: a) a means for sensing the temperature differential along the length of said air ducts, b) a ~~light sensing~~ means for sensing the ambient level of incident solar radiation, ~~or~~ c) a ~~clock~~ means for determining the time of day, or d) a thermostat for sensing the air temperature within said air ducts or or water temperature in said pool.

69. (currently amended) ~~The solar energy collecting assembly of claim **65** wherein said light-absorbing floor means inclines downward from the hotter end to the cooler end of said assembly and wherein said supply means applies feedstock fluid to the surface of said floor means at the hotter end of said evaporator air duct and wherein said removal means removes feedstock fluid from said floor means at the cooler end of said evaporator air duct.~~

A method according to claim **65** wherein the floor of said basin inclines downward from the hotter end to the cooler end of said basin and wherein feedstock fluid is directed into said basin and onto the floor of said basin at its hotter end and is removed from said basin at its cooler end.

70. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **16** further providing a first storage means upstream of said heat exchange pipe means for storing said hot heat exchange fluid during times when said fluid is not ~~admited~~ admitted to said heat exchange pipe means and a second storage means downstream of said heat exchange pipe means for storing said cool heat exchange fluid when said fluid is permitted to flow freely through said heat exchange pipe means.

71. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **1** further providing means for releasing ions from a high-voltage electrode into the air of said lower air duct near said second opening and attracting said ions to an electrode of opposite polarity placed in the condensate reservoir of said upper air duct near said second opening.

72. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **13** wherein said ~~air~~ partition means and said roof means are made hydrophilic by embossing their surfaces with a grooved pattern.

73. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **20** further providing a forcing means ~~to force~~ for forcing air through said air vent means to inflate said enclosure.

74. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **23** further providing a forcing means ~~to force~~ for forcing air through said inflation means to inflate said insulating air layers and, through said air vent means, to inflate said enclosure such that the pressure in said enclosure is made greater than the pressure in said insulating air layers.

75. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **20** wherein airtight resealing means, such as a zipper or Zip-loc® seal, are incorporated into the wall of said enclosure at either end of said lower air duct to allow said wall to be temporarily opened to provide access to the interior of said air duct.

76. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim **26** further providing means for releasing ions from a high-voltage electrode into the air of said lower air duct near said second opening and attracting said ions to an electrode of opposite polarity placed in the condensate reservoir of said upper air duct near said second opening.

77. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 38 wherein said ~~air~~ partition means and said roof means are made hydrophilic by embossing their surfaces with a grooved pattern.

78. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 41 further providing a first storage means upstream of said heat exchange pipe means for storing said hot heat exchange fluid during times when said fluid is not ~~admited~~ admitted to said heat exchange pipe means and providing a second storage means downstream of said heat exchange pipe means for storing said cool heat exchange fluid when said fluid is permitted to flow freely through said heat exchange pipe means.

79. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 55 wherein said ~~air~~ partition means and said roof means are made hydrophilic by embossing their surfaces with a grooved pattern.

80. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 58 further providing a first storage means upstream of said heat exchange pipe means for storing said hot heat exchange fluid during times when said fluid is not ~~admited~~ admitted to said heat exchange pipe means and providing a second storage means downstream of said heat exchange pipe means for storing said cool heat exchange fluid when said fluid is permitted to flow freely through said heat exchange pipe means.

81. (currently amended) The solar ~~energy collecting assembly~~ heated, multi-effect distillation system of claim 44 further providing means for releasing ions from a high-voltage electrode into the air of said lower air duct near said second opening and attracting said ions to an electrode of opposite polarity placed in the condensate reservoir of said upper air duct near said second opening.